

EXHIBIT A

What is claimed is:

- 1 1. A method comprising:
2 using active contours to detect image boundaries of a first view and a
3 second view of a human face; and
4 marking a first set of fiducial points on the first view and a second set of
5 fiducial points on the second view.
- 1 2. The method of claim 1, including:
2 determining a first feature set using the first set of fiducial points, and
3 determining a second feature set using the second set of fiducial points.
- 1 3. The method of claim 2, further comprising:
2 normalizing distances in the first feature set in terms of a distance between
3 two preselected fiducial points of the first set of fiducial points.
- 1 4. The method of claim 1, wherein the active contours comprise snake
2 contours and the first and second views comprise a front view and a side view.
- 1 5. The method of claim 4, wherein the snake contours for the front view
2 comprise at least two of a face boundary, an eye boundary, a brow boundary, a nose
3 boundary, and a lip boundary.
- 1 6. The method of claim 2, wherein the first feature set and the second feature
2 set each comprise less than ten distances.

1 7. The method of claim 2, further comprising storing the first feature set and
2 the second feature set in a database.

1 8. The method of claim 7, further comprising:
2 partitioning said database based on a feature vector of one of the first
3 feature set and the second feature set.

1 9. The method of claim 8, further comprising:
2 in response to a query image, querying the database using reference image
3 content corresponding to the feature vector.

1 10. A method comprising:
2 obtaining feature set information from a first view of a human face and a
3 second view of the human face; and
4 storing the feature set information in a database having a hierarchical tree
5 structure.

1 11. The method of claim 10, wherein the database includes feature set
2 information for a plurality of individuals.

1 12. The method of claim 10, further comprising determining whether to store
2 the feature set information in a first branch or a second branch of the hierarchical tree
3 structure based upon a value in the feature set information.

1 13. The method of claim 12, wherein the value corresponds to a metric
2 distance function.

1 14. The method of claim 11, further comprising searching the database for at
2 least one search result corresponding to a query image.

1 15. The method of claim 12, further comprising searching the first branch or
2 the second branch for a search result corresponding to a query image based on a metric
3 distance function of the query image.

1 16. An article comprising a machine-readable storage medium containing
2 instructions that if executed enable a system to:
3 obtain feature set information from a first view of a human face and a second
4 view of the human face; and
5 store the feature set information in a database having a hierarchical tree structure.

1 17. The article of claim 16, further comprising instructions that if executed
2 enable the system to determine whether to store the feature set information in a first
3 branch or a second branch of the hierarchical tree structure based upon a value in the
4 feature set information.

1 18. The article of claim 16, further comprising instructions that if executed
2 enable the system to search the database for at least one search result corresponding to a
3 query image.

1 19. The article of claim 17, further comprising instructions that if executed
2 enable the system to search the first branch or the second branch for a search result
3 corresponding to a query image based on a metric distance function of the query image.

1 20. A system comprising:
2 a dynamic random access memory containing instructions that if executed enable
3 the system to use active contours to detect image boundaries of a first view and a second
4 view of a human face, and to mark a first set of fiducial points on the first view and a
5 second set of fiducial points on the second view; and
6 a processor coupled to the dynamic random access memory to execute the
7 instructions.

1 21. The system of claim 20, further comprising instructions that if executed
2 enable the system to determine a first feature set using the first set of fiducial points, and
3 determine a second feature set using the second set of fiducial points.

1 22. The system of claim 21, further comprising instructions that if executed
2 enable the system to store the first feature set and the second feature set in a database.

1 23. The system of claim 22, further comprising instructions that if executed
2 enable the system to partition the database based on a feature vector of one of the first
3 feature set and the second feature set.

1 24. The system of claim 22, further comprising a display coupled to the
2 processor to display a query image and at least one search result image obtained from the
3 database in response to a similarity query based on at least one feature vector.